To help simplify and verify / justify geospatial "advice" to state and local authorities

Improve the quality of data

Coordinate between local agencies, so as not to "reinvent the wheel"

Interagency Geospatial Preparedness Team

common spatial reference system and open standards

common analysis strategies for assessing all-hazards vulnerabilities in infrastructure for homeland security

GIS Objectives in a BT Attack

1: To understand if an attack had happened,
or in keeping with an "all-hazard" approach,
to understand if a disease outbreak had occurred.

2: To understand where this outbreak had occurred,
and where subsequent infections were occurring,
or would likely occur.

3: To understand the methods of diffusion
– such as transport arteries and infrastructure hubs
(for example hospitals) so that spread patterns
could be predicted.

GIS Objectives in a BT Attack

4: To provide a means for field validation and outbreak updates that could be used to verify and further inform the first three points.

5: To provide a spatial information system that could coordinate and direct limited resources in response and recovery operations.

Spatial Data Input and Manipulation

Identify Local Data Sources

Some data are national and may be available through federal agencies

More likely each community will have to identify local data sources

These could include:

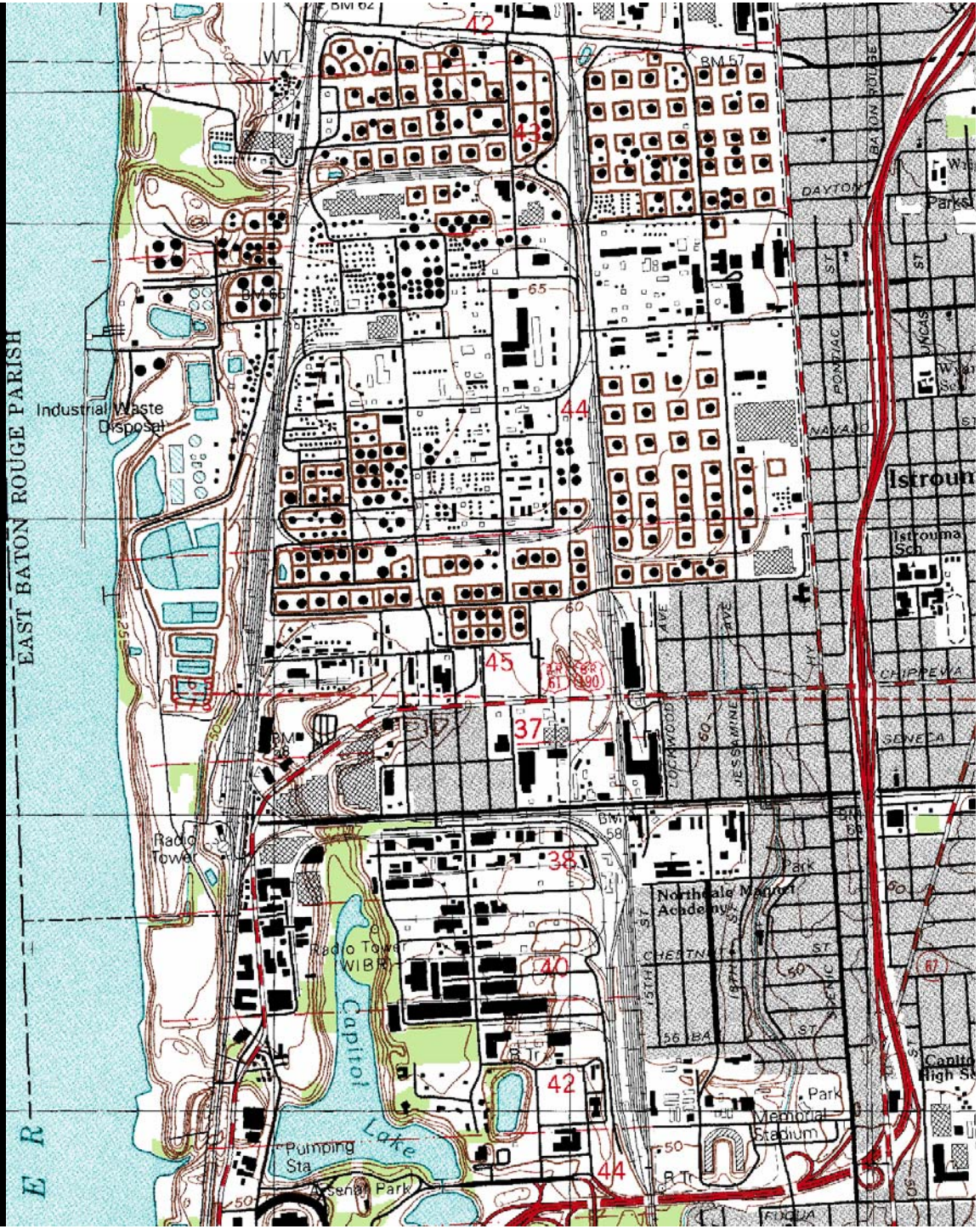
GIS scanned and registered maps (1:24,000 Topographic DRG)
Digital Orthophoto Quarter Quadrangles (showing building locations)
Access to route way information (TIGER files)
Access to city information and political boundaries (Census data)
Access to socioeconomic information (Census data)
Access to Elevation Data

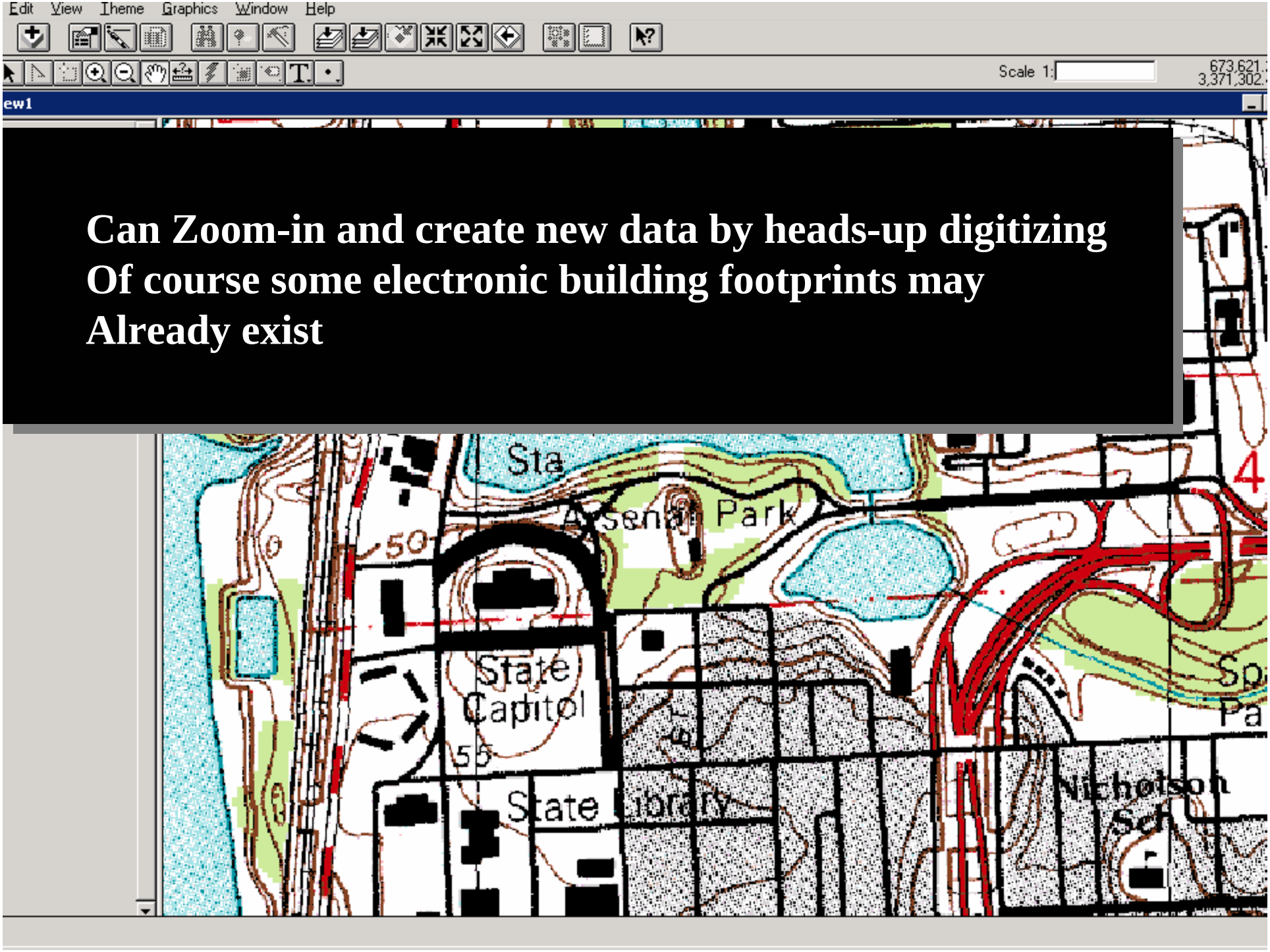
1:24,000 Scanned and Georegistered 7 ½ minute quadrangle

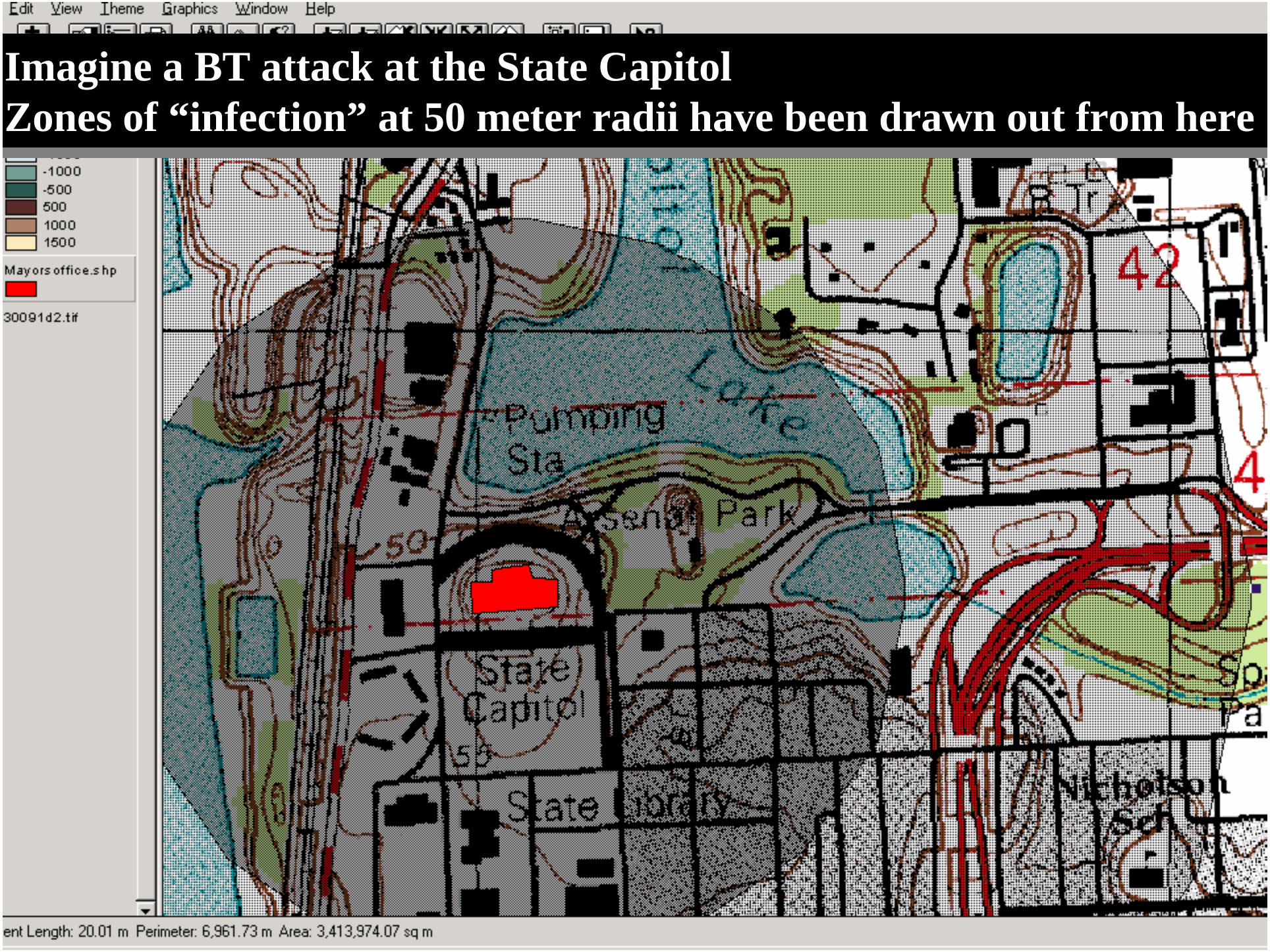
Otherwise known as Digital Raster Graphics

Can see features (lakes)
Roads (and names)
Buildings
Chemical works etc.

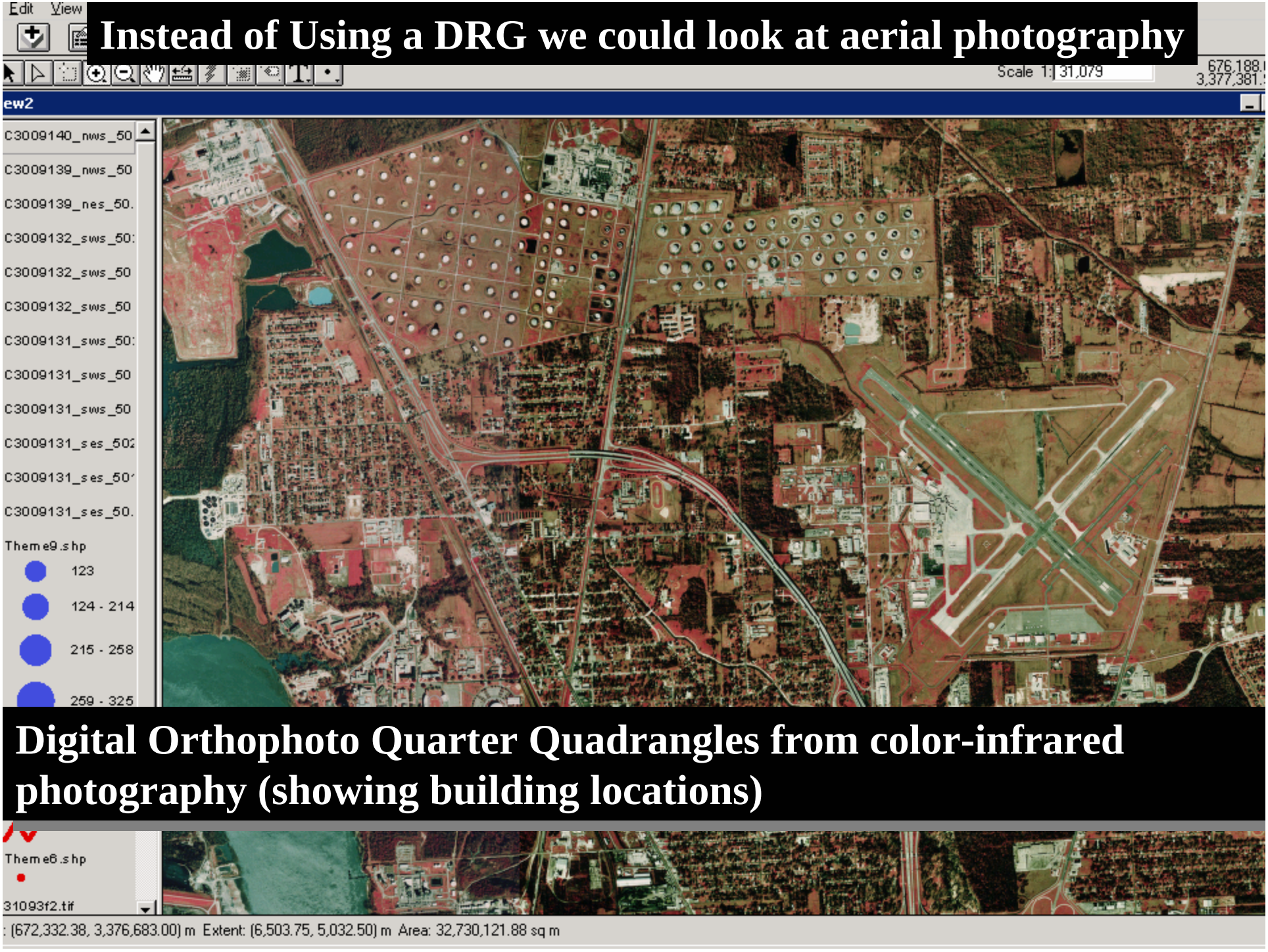
Useful for vulnerability



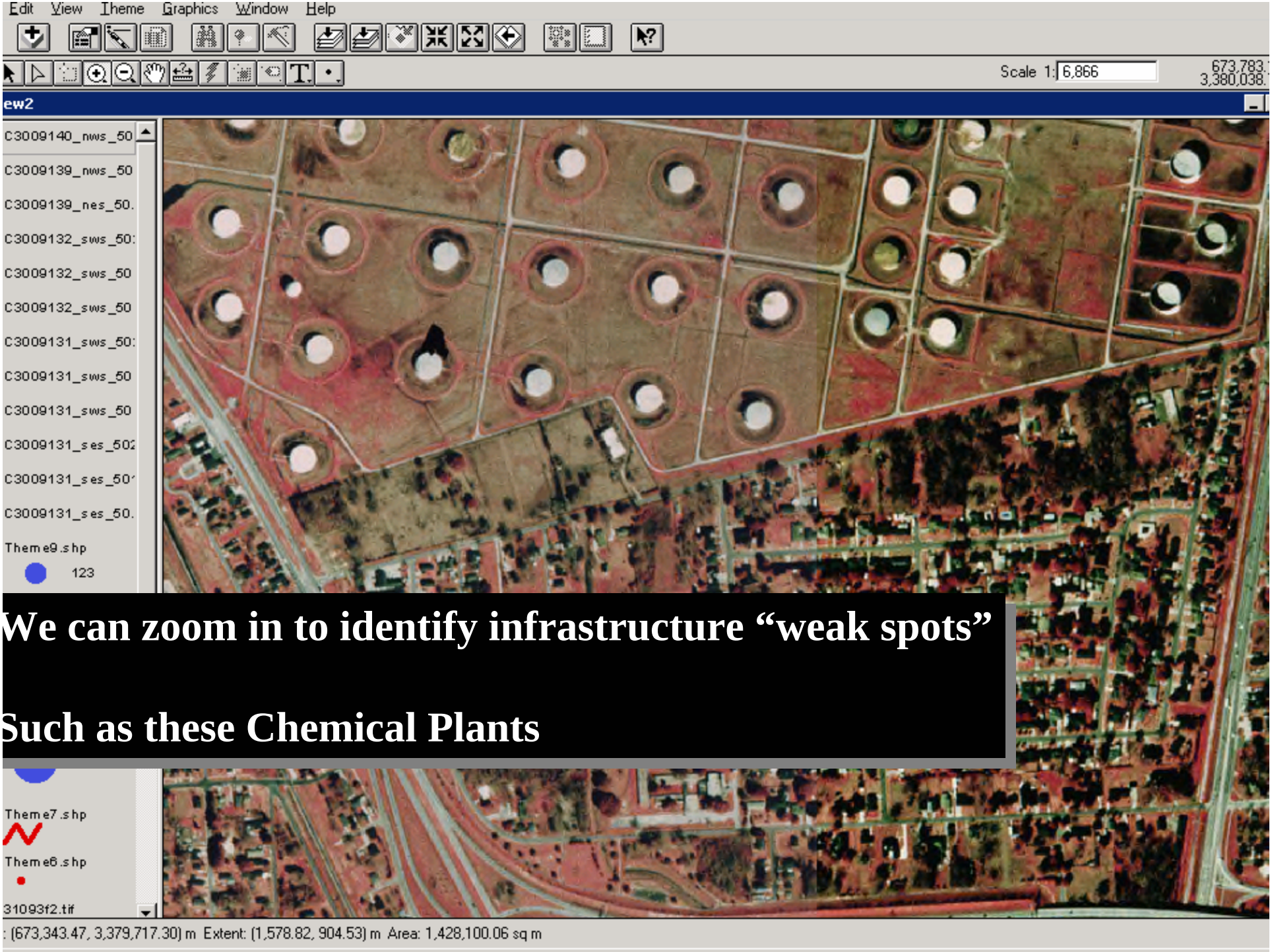

Edit View Theme Graphics Window Help
Scale 1:
ew1
Can Zoom-in and create new data by heads-up digitizing
Of course some electronic building footprints may
Already exist
Sta
Park
50
State
Capitol
55
State
Nicholson


Edit View Theme Graphics Window Help
Imagine a BT attack at the State Capitol
Zones of “infection” at 50 meter radii have been drawn out from here
-1000
-500
500
1000
1500
Mayors office.shp
30091d2.tif
Pumping Sta
Arsenal Park
State Capitol
State
Nicholson
50
42
4
ent Length: 20.01 m Perimeter: 6,961.73 m Area: 3,413,974.07 sq m

Instead of Using a DRG we could look at aerial photography



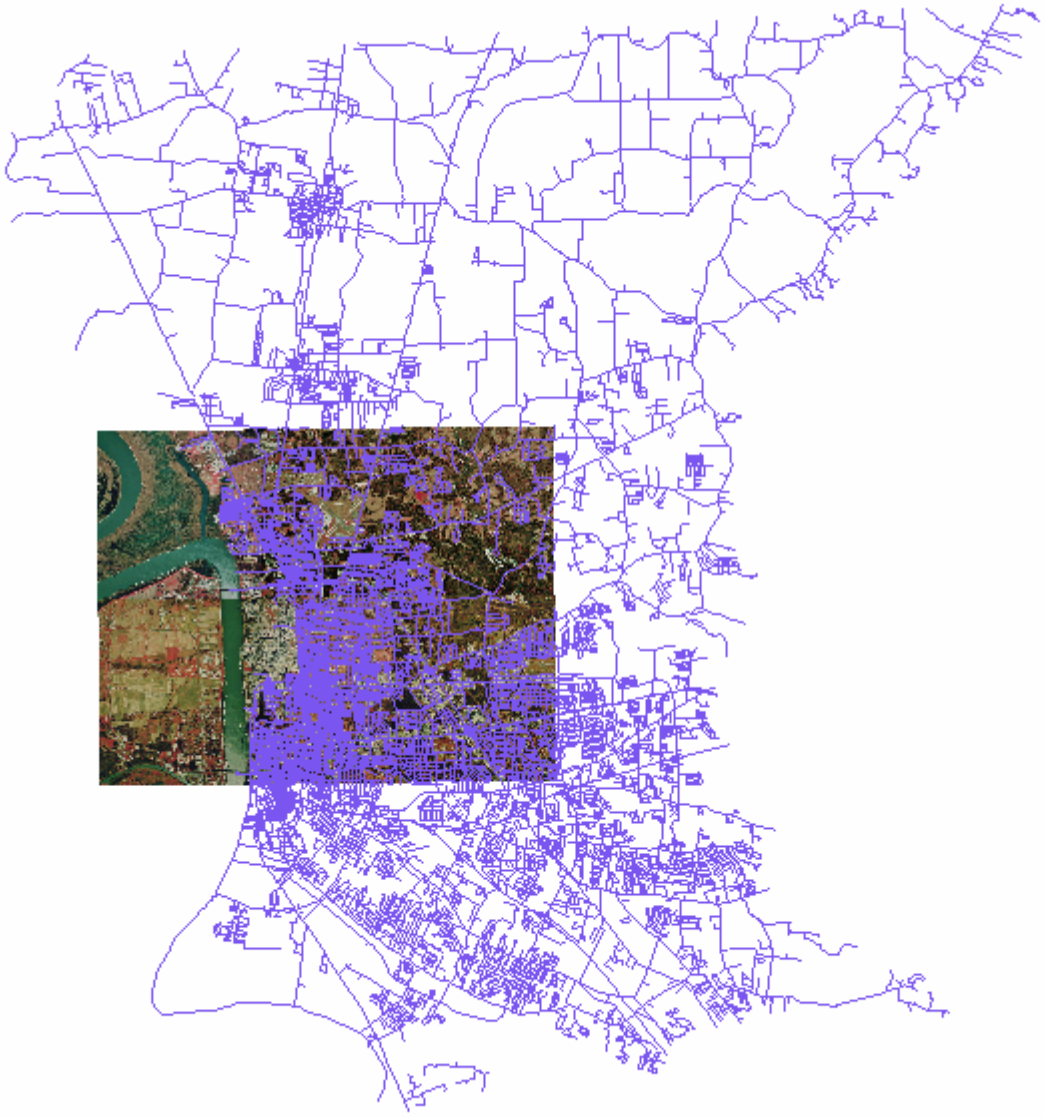
Digital Orthophoto Quarter Quadrangles from color-infrared photography (showing building locations)



We can zoom in to identify infrastructure "weak spots"

Such as these Chemical Plants

TIGER Line Files (Road Network) Allow for Address Matching



Can now see roads and road names